



Pretreatment conditioning (heat shock or 100.4 °F (38.0 °C) for 10 to 12 hours) is optional and is the responsibility of the shipper. The pretreatment conditioning, which may improve fruit quality, is described in HortScience 29 (10): 1166-1168. 1994. and 30(5): 1052-1053 (1995)



Cold treatment in *break-bulk* vessels must be initiated by an APHIS officer when shipments are from Italy, and Taiwan. However, cold treatment in *containers* may be initiated by treatment technicians from these countries only because they have been trained to initiate cold treatments for containers and not break-bulk vessels.

### T107-a

**Apple, Apricot, Cherry, Ethrog, Grape, Grapefruit, Kiwi, Loquat, Litchi (Lychee), Nectarine, Orange, Ortanique, Peach, Pear, Persimmon, Plum, Plumcot, Pomegranate, Pummelo, Quince, Sand Pear, Tangerine (includes Clementine)**

Pest: *Ceratitis capitata* (Mediterranean fruit fly)

Treatment: T107-a Cold treatment

Temperature	Exposure Period
34 °F (1.11 °C) or below	14days
35 °F ( 1.67 °C) or below	16 days
36 °F (2.22 °C) or below	18 days

### T107-a-1

**Apple, Apricot, Cherry, Grape, Grapefruit, Kiwi, Nectarine, Orange, Peach, Pear, Plum, Pomegranate, Quince, Tangerine (includes Clementine)**

Pest: *Ceratitis capitata* (Mediterranean fruit fly) and species of *Anastrepha* (other than *Anastrepha ludens*)

Treatment: T107-a Cold treatment

Temperature	Exposure Period
34 °F (1.11 °C) or below	15 days
35 °F ( 1.67 °C) or below	17 days

**T107-b**      **Apple, Apricot, Cherry, Citron, Ethrog, Grapefruit, Litchi, Longan, Orange, Peach, Persimmon, Plum, Pomegranate, Tangerine (includes Clementine), White Zapote**

Pest: *Anastrepha ludens* (Mexican fruit fly)

Treatment: **T107-b** Cold treatment

Temperature	Exposure Period
33 °F (0.56 °C) or below	18 days
34 °F (1.11 °C) or below	20 days
35 °F ( 1.67 °C) or below	22 days

**T107-c**      **Apple, Apricot, Carambola, Cherry, Grape, Grapefruit, Orange, Pomegranate, Tangerine (includes Clementine)**

Pest: Species of *Anastrepha* (other than *Anastrepha ludens*)

Treatment: **T107-c** Cold treatment

Temperature	Exposure Period
32 °F (0 °C) or below	11 days
33 °F (0.56 °C) or below	13 days
34 °F (1.11 °C) or below	15 days
35 °F ( 1.67°C) or below	17 days

**T107-d**      **Apple, Grapefruit, Kiwi, Orange, Pear, Tangerine (includes Clementine)**

Pest: *Bactrocera tryoni* (Queensland fruit fly)

Treatment: **T107-d** Cold treatment

Temperature	Exposure Period
32 °F (0 °C) or below	13 days
33 °F (0.56 °C) or below	14 days
34 °F (1.11 °C) or below	18 days
35 °F ( 1.67°C) or below	20 days
36 °F (2.22 °C) or below	22 days

**T107-e**      **Apricot, Citrus, Nectarine, Peach, Plum**

Pest: *Cryptophlebia leucotreta* (false codling moth) and  
*Pterandrus rosa* (Natal fruit fly)

Treatment: **T107-e** Cold treatment

Temperature	Exposure Period
31 °F ( -0.55°C) or below <sup>1</sup>	22 days

- 1 The treatment shall not commence until all sensors are reading 31°F (-0.55°C) or below. If the temperature exceeds 31.5°F (-0.27°C), the treatment shall be extended one-third of a day for each day or part of a day the temperature is above 31.5°F (-0.27°C). If the exposure period is extended, the temperature during the extension period must be 34° F (1.11°C) or below. If the temperature exceeds 34°F (1.11°C) at any time, the treatment is nullified. Also, some freeze damage to the fruit may occur if the pulp temperature is allowed to drop below approximately 29.5°F (-1.38°C) (This varies with the commodity.)

## **T107-f**

### **Carambola, Litchi (Lychee), Sand Pear, Ya pear**

Pest: *Bactrocera cucurbitae* (Melon fly), *Bactrocera dorsalis* (Oriental fruit fly), and *Eutetranychus orientalis* (Oriental citrus mite)

Treatment: **T107-f** Cold treatment

Temperature	Exposure Period
32 °F (0 °C) or below	10 days
33 °F (0.56 °C) or below	11 days
34 °F (1.11 °C) or below	12 days
35 °F ( 1.67 °C) or below	14 days



If the fruit is shipped from an area where Mediterranean fruit fly also occurs in combination with melon fly and/or Oriental fruit fly, use T107-a

## **T107-g**

### **Pecans and Hickory nuts**

Pest: *Curculio caryae* (Pecan weevil)

Treatment: **T107-g** Cold treatment

Temperature	Exposure Period
32 °F (0 °C) or below	7 days

## **T107-h**

### **Longans, Litchi (Lychee)**

Pest: *Bactrocera dorsalis* (Oriental fruit fly), *Bactrocera cucurbitae* (melon fly) and *Conopomorpha sinensis* (lychee fruit borer)

Treatment: **T107-h** Cold treatment

Temperature	Exposure Period
33.4°F ( 0.77 °C) or below	13 days
33.8 °F ( 0.99 °C) or below	15 days
34.5 °F ( 1.38 °C) or below	18 days